

The Present Invention is Both New and
Non-Obvious in Light of All the Cited References

In the present Office Action, claims 24-26, 28-34, and 36-42 are rejected under 35 U.S.C. §102(e) as being anticipated by United States Patent 5,868,704 to Campbell et al. (hereafter "Campbell et al."). Claims 27 and 35 are rejected under 35 U.S.C. §103(a) as being obvious over Campbell et al. in view of United States Patent 5,066,298 to Hess (hereafter "Hess"). As is explained below, with the above amendment to claim 24, all of these rejections have been overcome.

As is explained in the present application, it has been known that distensible material, such as latex or the balloon material of the Campbell et al. patent, can be mounted onto a catheter shaft so that the balloon ends remain attached to the shaft during expansion and contraction of the balloon. However, prior to the present invention, it has never been taught or suggested that there might be some benefit in providing a distensible balloon material that has been treated prior to mounting on a catheter shaft to have non-distensible ends. The present inventors have determined that a balloon material treated in this manner is both easier to mount to a catheter shaft and is more reliable in operation than previous distensible balloon materials. See, e.g., Application, at 3, lines 13-28.

In rejecting claims 24-26, 28-34, and 36-42 in the current Office Action, it is asserted that "Campbell teaches all the claimed subject matter including a balloon bound to a catheter by collars (93), made out of polytetrafluoroethylene (claims), and attached to a non-distensible element by an adhesive (col. 14, line 64 – col. 15, line 2)." see Office Action at page 3. Claims 27 and 35 are then rejected over Campbell et al. in view of Hess:

Campbell teaches all the claimed subject matter except to having the ends of the balloon bound by tape instead of a collar. Hess teaches a catheter wherein the balloon ends are bound by tape to prevent them from expanding. It would have been obvious to use tape as taught by Hess instead of heatshrink collars as taught by Campbell since the examiner takes the position that these two elements are equivalent for their use in the art and the selection of any of these known equivalents would be within the level of ordinary skill in the art. Office Action, at pages 3-4.

Thus, it is the position of the Office that both Campbell et al. and Hess render the ends of the balloon sleeves non-distensible by mounting the balloon sleeve by its ends onto the non-distensible catheter shaft. Neither of the cited references makes any suggestion that the ends of the balloon should be rendered non-distensible prior to mounting on the catheter shaft. Moreover, neither of the cited references suggests that such a significantly modified balloon sleeve would have any benefit.

Claim 24 has been amended to clarify that applicants' invention defines a balloon sleeve that has a distensible mid-section and at least one end that is non-distensible prior to the sleeve being mounted on a catheter shaft. None of the references of record teaches or suggests such a balloon sleeve and, as such, claim 24 (amended) defines over all of the art of record.

Additionally, claims 25 through 42 define further inventive elements of the present invention over and above the new and non-obvious invention defined by claim 24 (amended). Again, nothing in the prior art teaches or suggests the invention defined by these dependent claims.

As such, all the claims are now in form for allowance.

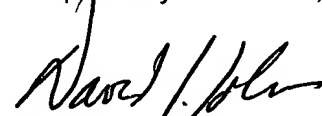
Further Supplemental Information Disclosure Statement

Applicants believe that copies of all references cited in the Information Disclosure Statement filed February 15, 2001, accompanied that document. However, apparently copies of those references did not reach the Examiner. As is requested in the current Office Action, applicants provide with this response copies of the foreign and non-patent references previously cited.

Conclusion

For the foregoing reasons, the present invention as defined by claims 24 (amended) and 25 through 42 is neither taught nor suggested by any of the references of record. Reconsideration and allowance of the amended claims are respectfully requested. If any questions remain, applicants request an interview prior to the next Office Action.

Respectfully submitted,



David J. Johns
Reg. No. 31,527
W. L. Gore & Associates, Inc.
551 Paper Mill Road
P.O. Box 9206
Newark, DE 19714-9206
(928) 526-3030

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the claims:

Claim 24 has been amended as follows:

24. (amended) A sleeve adapted to be mounted on a catheter shaft so as to be
formed into an inflatable balloon comprising
the sleeve having a first end, a second end, and a middle section;
wherein prior to mounting on catheter shaft at least one of the ends is non-distensible
while the middle section of the sleeve is distensible.